

What Is Claimed Is:

1. An apparatus for coating a medical device comprising:
 - a coating chamber;
 - a vibrating structure within the coating chamber,
 - the vibrating structure capable of suspending a medical device positioned in the coating chamber; and
 - a coating source,
 - the coating source positioned to introduce coating into the coating chamber.
2. The apparatus of claim 1 further comprising a coating filter coupled to the coating chamber.
3. The apparatus of claim 1 wherein the vibrating structure is either a conveyor belt, a disc, a plate or an acoustic diaphragm.
4. The apparatus of claim 1 wherein the coating source includes a nozzle coupled to a supply of coating.
5. The apparatus of claim 1 wherein the vibrating structure is positioned below a screen.
6. The apparatus of claim 5 wherein the vibrating structure is capable of generating pressure waves of compressible fluid containing enough energy to lift a medical device located on the screen away from the screen.
7. The apparatus of claim 4 wherein the nozzle is positioned beneath the vibrating structure.
8. The apparatus of claim 1 further comprising:
 - a power source coupled to the vibrating structure; and
 - a controller controlling the power source and providing instructions to vibrate the vibrating structure at a predetermined frequency.

9. A method of coating a medical device comprising:
 - moving a medical device into a predetermined coating area;
 - vibrating a structure below the medical device, the vibration of the structure forcing the medical device away from the vibrating structure; and
 - coating at least a portion of the medical device that has moved away from the vibrating structure.
10. The method of claim 9 wherein the medical device is periodically contacted by the vibrating structure such that the device first travels away from the vibrating structure and then travels back towards the vibrating structure until the medical device is contacted again by the vibrating structure.
11. The method of claim 9 further comprising:
 - introducing a curing catalyst into the coating area.
12. The method of claim 9 wherein the coating contains a therapeutic.
13. The method of claim 9 wherein the medical device does not contact the vibrating structure.
14. The method of claim 9 further comprising:
 - injecting a compressible fluid into the predetermined coating area.
15. The method of claim 9 further comprising:
 - coating the medical device with a second coating.
16. The method of claim 9 further comprising:
 - heating the medical device to a temperature adequate to cure coating on the medical device.

17. The method of claim 9 further comprising:
evacuating the predetermined coating area with a vacuum force.
18. The method of claim 9 further comprising:
removing coating material from the predetermined coating area; and
recycling the removed coating material.
19. The method of claim 9 wherein the medical device is selected from a stent, a medical balloon, a graft, a vena-cava filter or combinations thereof.
20. The method of claim 9 wherein the vibrating structure is selected from a conveyor belt, a rotating container, a plate, or acoustic means for suspending the medical device.
21. The method of claim 9 wherein a gas is used to position the medical device in the predetermined coating area and to remove the medical device from the predetermined coating area.
22. The method of claim 9 wherein the medical device is supported by a protective cage.
23. A medical device that has been manufactured in accord with the following method, the method comprising:
moving the medical device into a predetermined coating area;
vibrating a structure below the medical device, the vibration of the structure forcing the medical device away from the vibrating structure; and
coating at least a portion of the medical device that has moved away from the vibrating structure.
24. The medical device of claim 23 wherein the structure that is vibrated defines the predetermined coating area.